



OLDER DRIVERS: HOW SAFE ARE THEY?

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Presentation Overview



- Safety of older drivers
- How age affects driving abilities
- Approaches for improving safety of older drivers
- Additional resources

Older Drivers by the Numbers

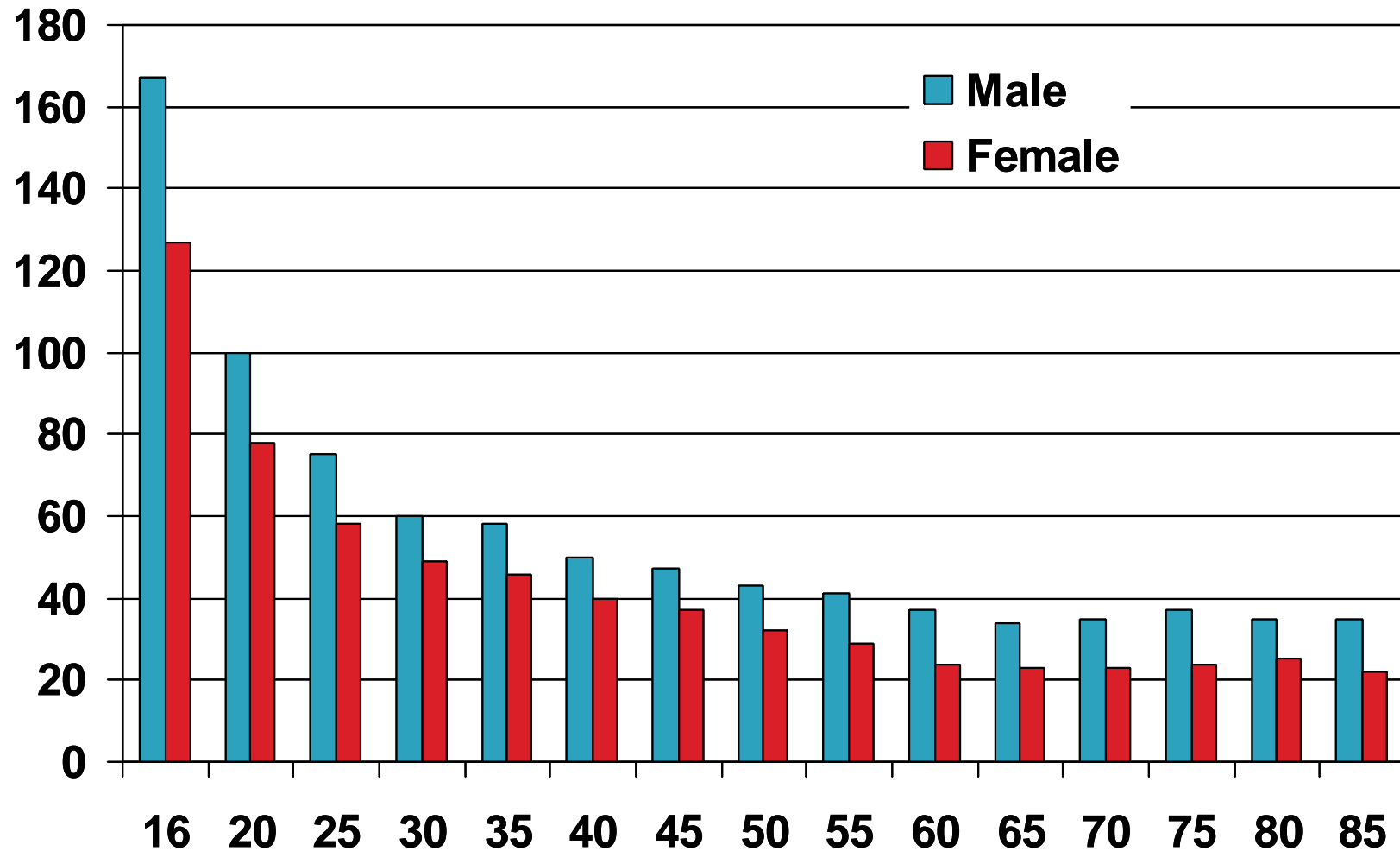
- 28.5 million adults ages 70+ living in the U.S. (9% of total U.S. population)
- 22.6 million licensed drivers 70+ (11 % of licensed drivers)
- U.S. population age 70+ expected to increase to 52.7 million by 2030.

(Source: Insurance Institute for Highway Safety)

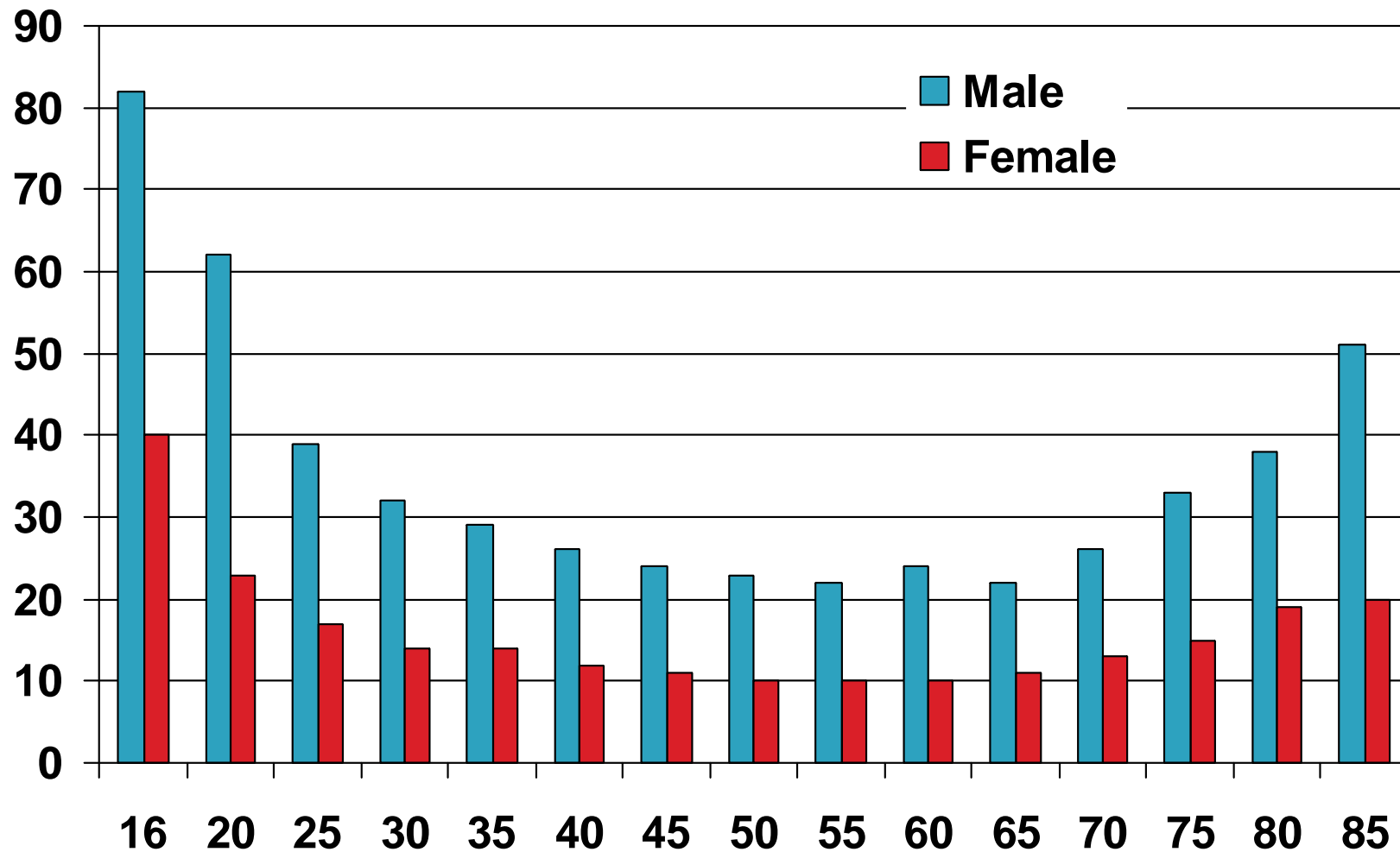
Research Supports

- No increase in crash risk for drivers younger than 70
- Even in the face of declines, older drivers can often compensate by making better decisions and exercising better judgment
- Very little research directed specifically at older commercial vehicle or transit operators

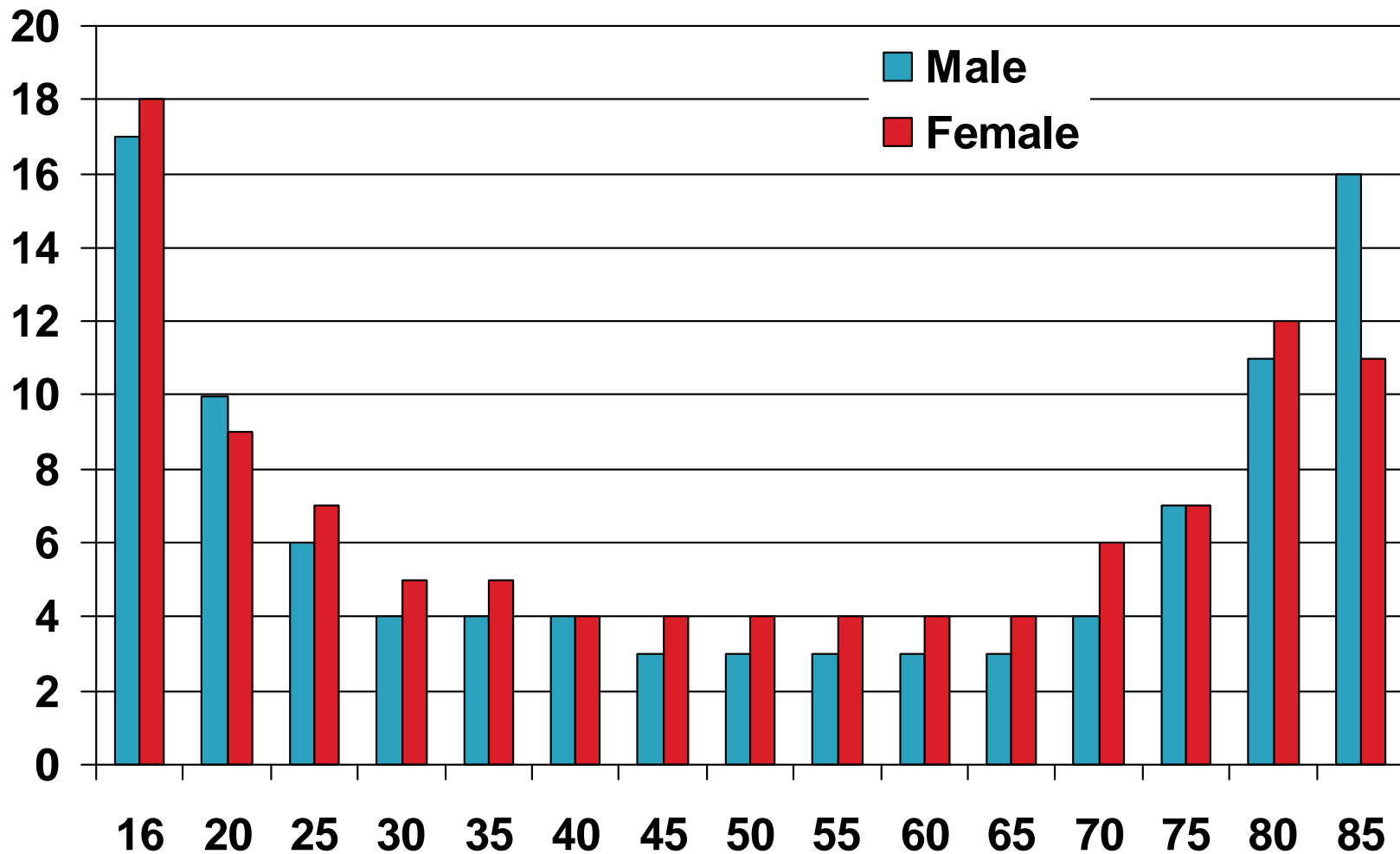
Crashes per 1,000 Licensed Drivers



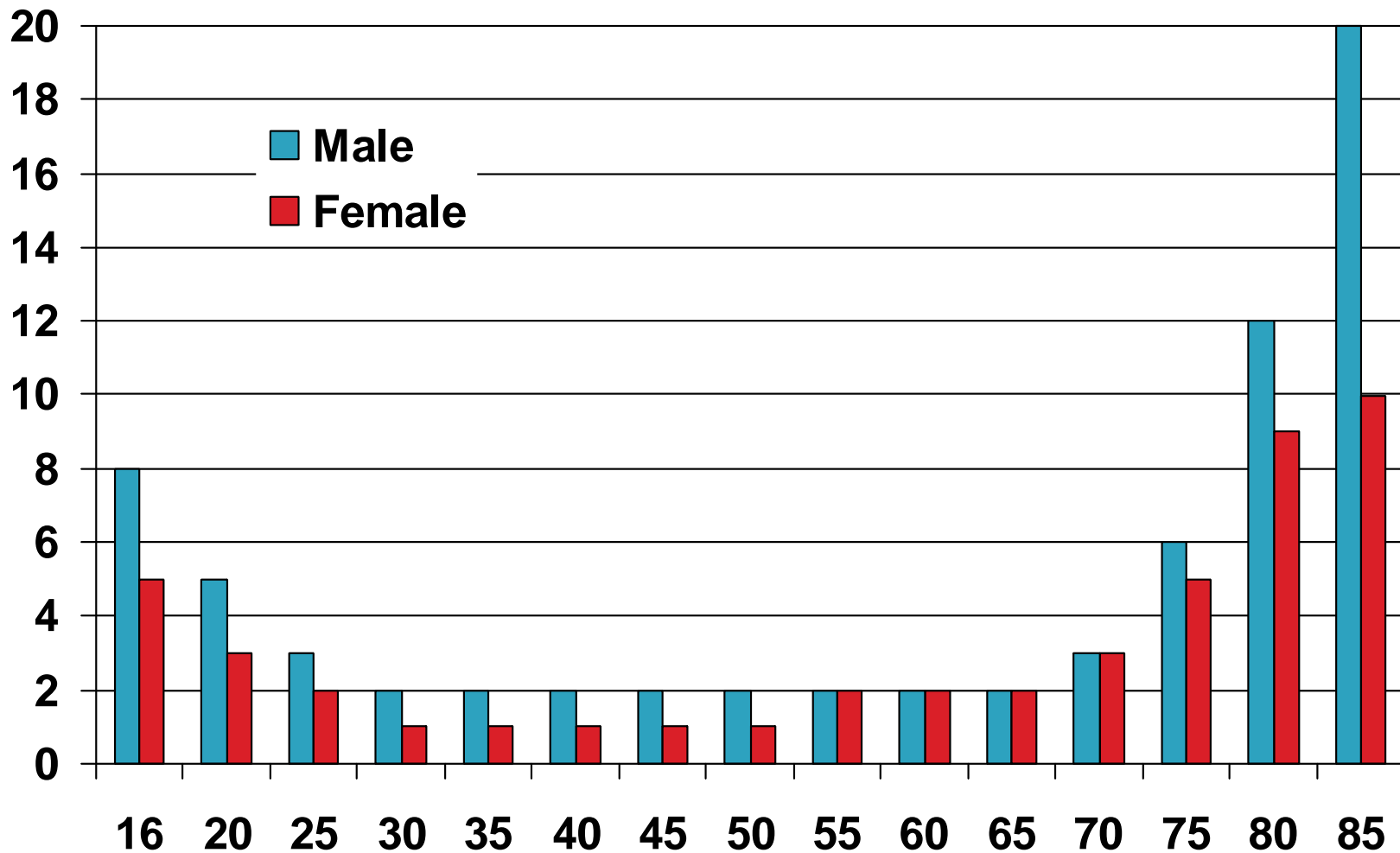
Fatal Crashes per 100,000 Licensed Drivers



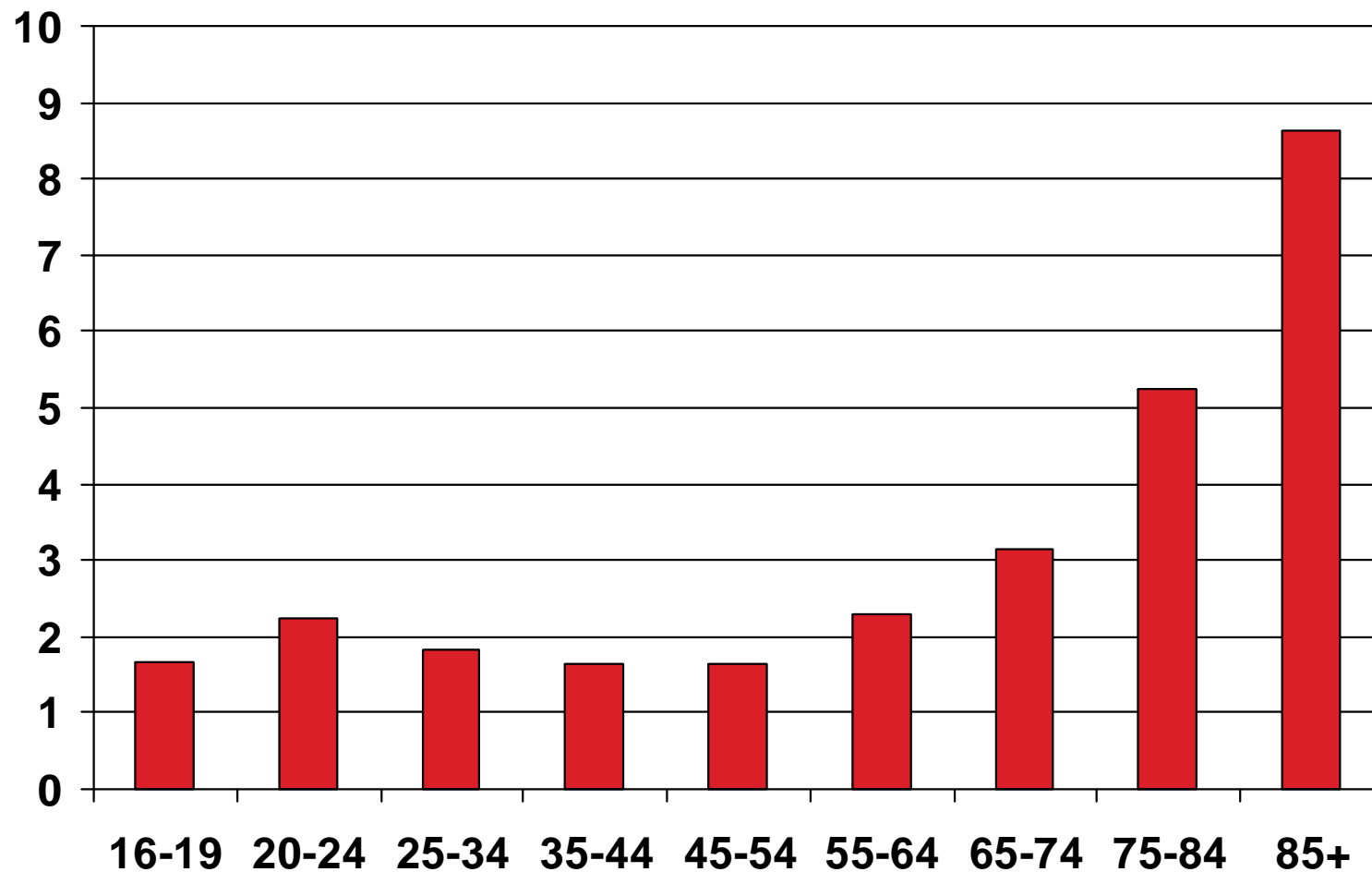
Crashes per Million Miles Traveled



Fatal Crashes per 100 Million Miles Traveled



Fatalities per 1,000 Crashes



What are the primary causes of traffic crashes?

- 90% of crashes caused by driver error
- Poor judgment, lack of driving experience, inadequate driving skills
- Distraction, drowsiness, influence of alcohol or drugs
- Loss of driving competency due to:
 - Medical conditions
 - Disabilities
 - Side effects of medications
 - Age related declines in visual, physical, or mental abilities needed to drive safely

Age-related Functional Declines Associated with Increased Crash Risk

Functional Ability	Deficits That Predict Crash Risk
Sensory	Dynamic visual acuity Contrast sensitivity Visual field loss
Perceptual- Cognitive	Speed of processing Working memory Selective and divided attention (“useful field of view”) Visuospatial abilities (pattern perception, visualizing missing information) Executive function – planning, judgment, decision-making
Psychomotor	Strength Range of motion of extremities Trunk and neck mobility Proprioception

Examples of Chronic Medical Conditions and Affected Functional Abilities

Functional Abilities	Medical Conditions
Visual Function	Cataracts Glaucoma Macular degeneration
Physical Function	Neurologic diseases (e.g., Parkinson's) Musculoskeletal (e.g., arthritis)
Cognitive Function	Dementia Stroke Sleep Apnea

(Source: CTBSSP Synthesis 18)

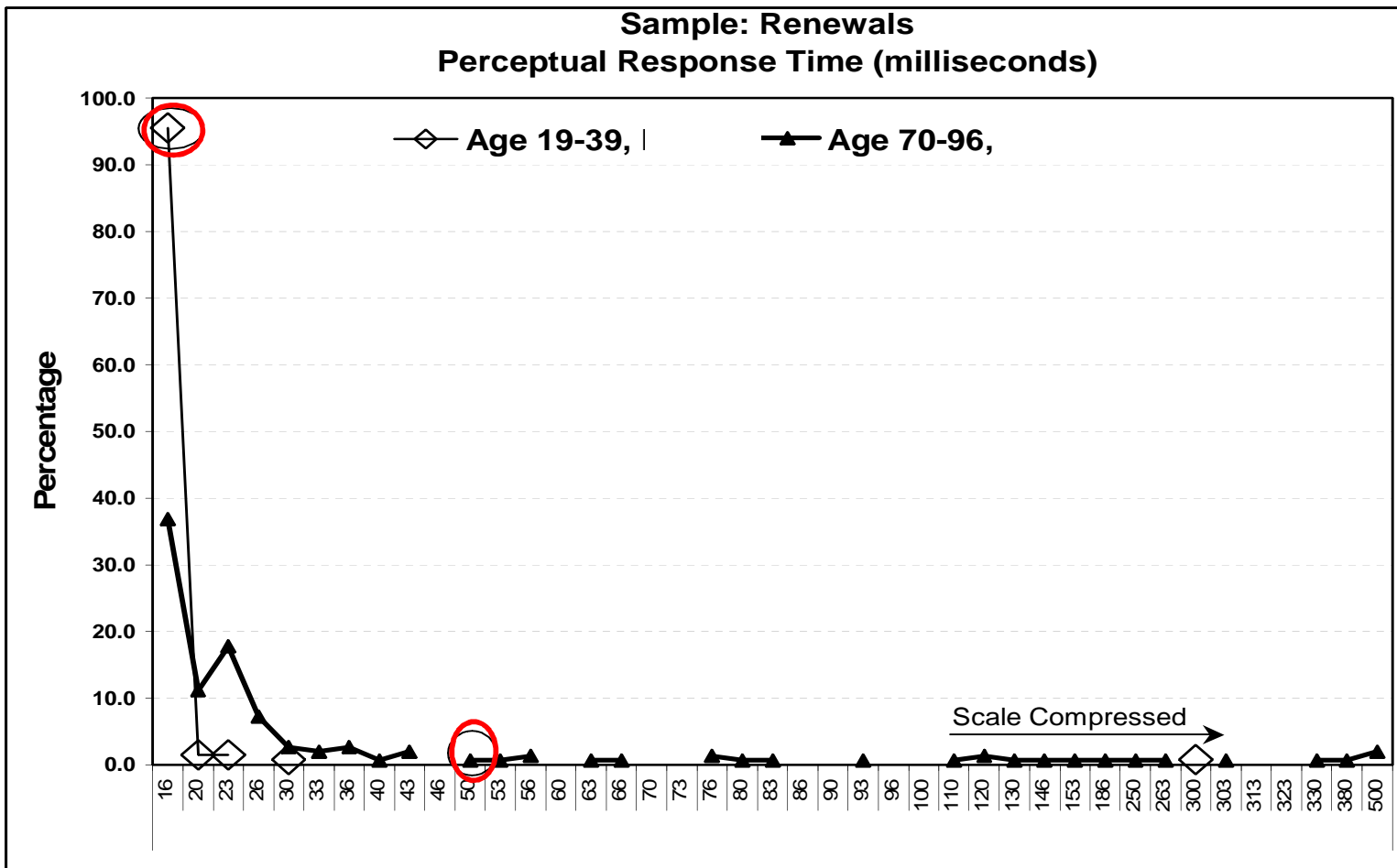
Potentially Driving Impairing (PDI) Medications

Anticholinergics	Antiparkinsonians
Anticonvulsants	Antipsychotics
Antidepressants	Benzodiazepines and other sedatives/anxiolytics
Antiemetics	Muscle relaxants
Antihistamines	Narcotic analgesics
Antihypertensives	Stimulants

Source: AMA Physician's Guide to
Assessing and Counseling Older Drivers

Key points to remember. . .

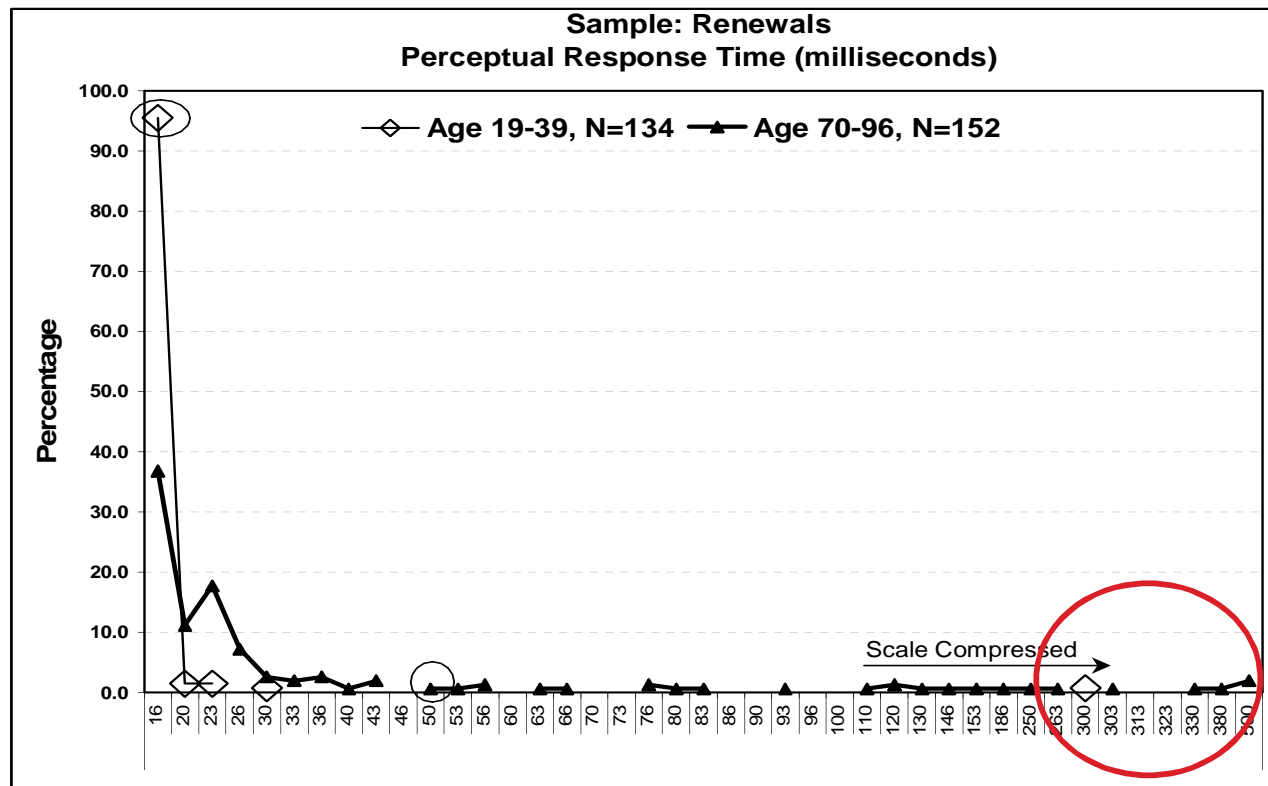
- Not the medical condition (disability, medication, etc.) itself – But the effect this condition has on an individual's functional capacity to operate a motor vehicle safely.
- Medical conditions can, however, serve as “red flags” for further checking.
- Age alone does not predict driving ability!



An example of **Ecological Fallacy**

Source: Hennessey and Janke, 2009

Your Challenge?



Identify the outliers — regardless of age

So, what approach to take?

- Consider drivers on an individual basis
 - Don't be afraid to hire older drivers!
- Target functional abilities related to driving
- Offer assistance where appropriate

Possible Actions to Consider

- **Detection of functional losses**
 - Past driving history
 - Medical history - chronic or acute conditions, medications
 - Screening of functional abilities
 - Physician recommendation
- **Remediation of functional losses**
 - Eyeglasses, wavefront lenses
 - Cataract removal
 - Strength and flexibility exercises
 - Speed of processing training
- **Accommodation of functional losses**
 - In-vehicle compensatory equipment (e.g., backup sensors, additional mirrors, audio-based vehicle navigation systems)
 - Training and education (e.g., visual search strategies, scanning)

A Few Example Resources



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For public health and personal safety, when screening results indicate serious functional impairment a follow-up visit to an appropriate health professional for diagnostic assessment, and/or driving evaluation is highly recommended.

The **DRIVINGHEALTH® INVENTORY** *including UFOV®* is a software tool for driver functional screening, containing measures that have been validated against at-fault crashes in case-control research sponsored by the National Highway Traffic Safety Administration and the National Institute on Aging. Under controlled conditions, its standardized procedures provide a quick and reliable indication of whether an individual has no deficit, a mild deficit, or a serious deficit in each of the following functional abilities that underlie safe driving:

- **high- and low-contrast visual acuity** – to read signs, detect hazards, and guide the vehicle properly under high and low visibility conditions.
- **leg strength & stamina** – to use the gas and brake pedals effectively for smooth control of vehicle speed, and timely response in emergency situations.
- **head/neck flexibility** – to rapidly check in both directions for cross-traffic, and to look over the shoulder before backing, merging, or changing lanes.
- **route planning** – a preferred measure of 'executive function' that includes planning, foresight, judgment, and visual attention; this ability is essential not only for navigation but for safely negotiating any complex traffic situation.
- **short-term and working memory** – to remember and apply all rules and regulations for safe driving, sign messages, route directions, and other trip information while simultaneously attending to traffic.
- **visualization of missing information** – to recognize a whole object when only part is in view, helping a driver anticipate and respond earlier to emerging safety threats.
- **visual search with divided attention** – to rapidly scan the roadway environment for traffic control information, navigational cues, and conflicts with other vehicles or pedestrians, especially at intersections.
- **visual information processing speed** – to detect threats at the edge of the 'useful field of view' while maintaining concentration on what is happening directly ahead.

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How Medications Can Affect Driving

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Two-thirds of people age 65 and older take five or more daily medications that can affect driving ability.

Prescription and over-the-counter medications come with warnings about possible side effects, such as drowsiness or risks related to driving, yet many people ignore them, because they've never had a problem. In addition, side effects for an individual drug can change when combined with other medications, especially new prescriptions.

Medications known to impact driving include:

- Tranquilizers
- Narcotic pain pills
- Sleep medicines
- Some antidepressants
- Cough medicines
- Antihistamines
- Decongestants



Developed by the AAA Foundation for Traffic Safety, Roadwise Rx is a free online tool designed to allow you to record your prescription and over-the-counter medications in one central location, and to receive personalized feedback about how drug side effects and interactions between medications may impact your safety behind the wheel.

www.roadwiseRx.com



Helping Mature Drivers Find Their Safest Fit



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Program Goals and Outcomes

What is CarFit for the older driver?

CarFit is an educational program that offers older adults the opportunity to check how well their personal vehicles "fit" them.

The CarFit program also provides information and materials on community-specific resources that could enhance their safety as drivers, and/or increase their mobility in the community.

Why is CarFit important?

Older drivers are often the safest drivers in that they are more likely to wear their seatbelts, and less likely to speed or drink and drive. However, older drivers are more likely to be killed or seriously injured when a crash does occur due to the greater fragility of their aging bodies.

Driver safety programs improve adult driver safety by addressing cognitive abilities and skills, however, older drivers can also improve their safety by ensuring their cars are properly adjusted for them. A proper fit in one's car can greatly increase not only the driver's safety but also the safety of others.

www.car-fit.org



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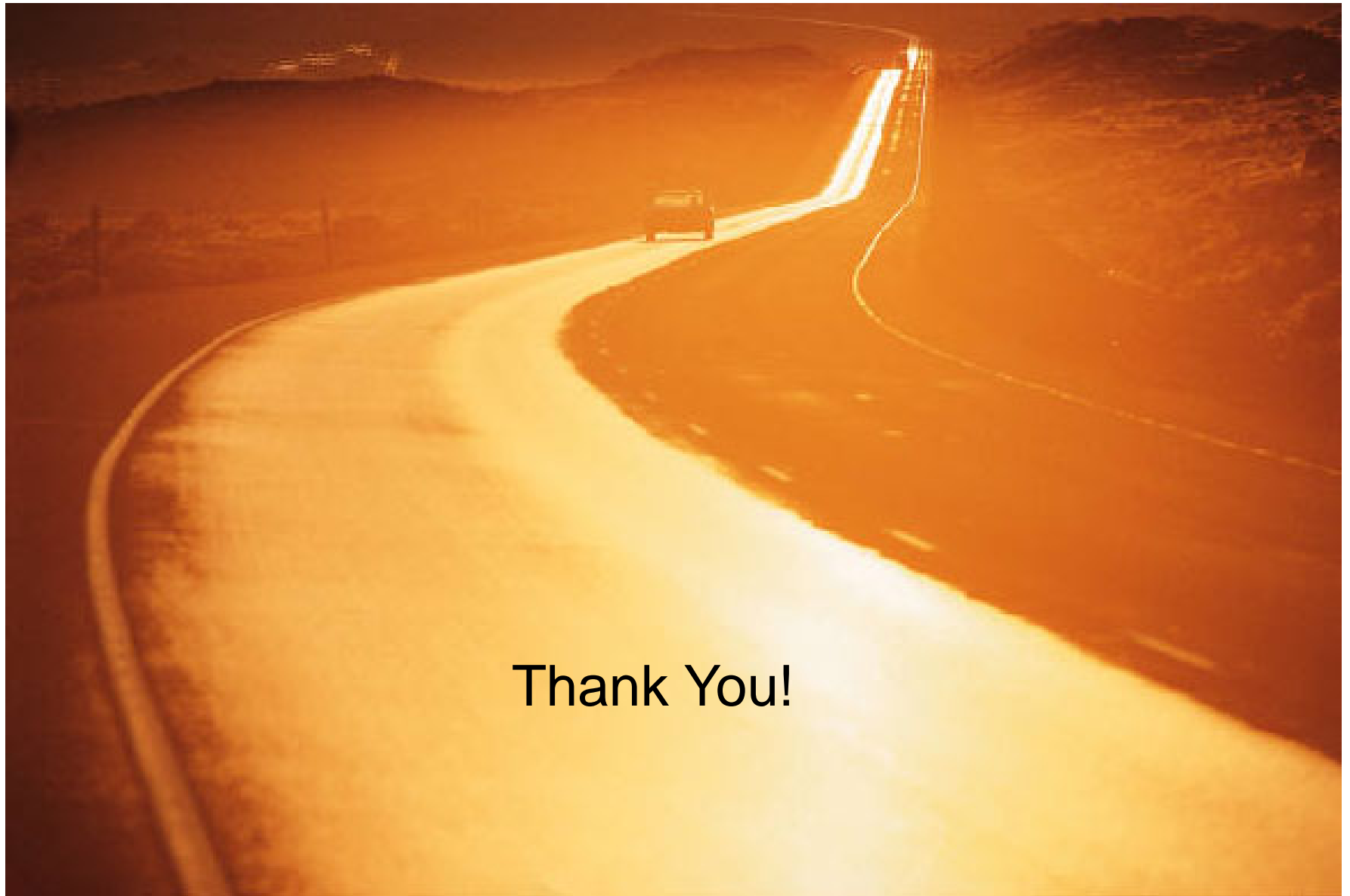
Professional Driving Evaluation

<p>Baptist Medical Center To Schedule: 336-716-8004 Therapist: Katherine Sobie, OT 131 Miller Street Winston-Salem, NC 27103</p>	<p>Frye Regional Medical Center To Schedule: 828-328-4398. Therapist: Elizabeth Green, OT 1781 Tate Blvd #101 Hickory NC 28602</p>
<p>Care Partners Health Systems To Schedule: 828-274-6179. Therapist: Ed Herbster, OT 68 Sweeten Creek Road Asheville, NC 28803</p>	<p>Pitt County Memorial Hospital To Schedule: 252-847-6603 Therapist: Peggy Crisp, OT 2310 Stantonsburg Road Greenville, NC 27835-6028</p>
<p>Whitaker Rehab To Schedule: 336-718-9272 Therapist: Jill Tucker, OT 3333 Silas Creek Pkwy Winston-Salem, NC 27103</p>	<p>Driver Rehabilitation Services, P.A. To Schedule: 336-697-7841 Therapist: Cyndee Crompton, OT 605 Cabaret Rd. McLeansville, NC 27301</p>

(Source: East Carolina Univ. ROADI website)

References for Further Information

- “Older Commercial Drivers: Do They Pose a Safety Risk?” (CTBSSP Synthesis 18)
- NHTSA “Driver Fitness Medical Guidelines”
(NHTSA.gov, type in Medical Guidelines)
- AMA “Physician’s Guide to Assessing and Counseling Older Drivers,” 2nd Edition
(AMA + older drivers)



Thank You!